CHIZHOV, A.F.

pr PHASE I BOOK EXPLOITATION SOV/4560

Tsentral'naya aerologicheskaya observatoriya

Trudy, vyp. 25 (Transactions of the Central Aerological Observatory, no. 25) Leningrad, Gidrometeoizdat, 1959. 83 p. 700 copies printed.

Sponsoring Agency: Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR.

Ed. (Title page): Ye. G. Shvidkovskiy; Ed.: Yu. V. Vlasova; Tech. Ed.: N. V. Volkov.

PURPOSE: This issue of the Transactions is intended for specialists in the physics of the atmosphere and aerology.

COVERAGE: This collection of 4 articles deals with problems connected with research of the upper atmosphere. The scientific use of artificial Earth satellites and rockets for the investigation of the upper layers of atmosphere is described. The energy distribution in the spectrum of solar rays in an

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absolutely pure and dry air is calculated for the troposphere and for the lower part of stratosphere, taking into account absorption by ozone. Experimental data on the change of the temperature coefficient of resistance for tungsten wire under various conditions of preliminary heating, as well as data on the tensiometric coefficient of tungsten, used in rocket experiments are presented. The two articles by L. A. Biryukovs were written under the guidance of I. A. Khvostikov. References follow each article.

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(MIRA 15:12)
(Mass spectrometry)

REPNEV, A.I.; CHIZHOV, A.F.

Some processes taking place in a mass spectrometer. Trudy TSAO no.42:53-74 '62. (MIRA 15:12)

(Mass spectrometry)

CHIZHOV, A.F.

Some preliminary results of developing the methodology for using a omegatron-type mass spectrometer in a quantitative determination of the composition of a gas mixture. Trudy TSAO no.42:75-83 '62. (MIRA 15:12)

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Feeding and recording system for omegatron type mass spectrometers. Trudy TSAO no.46:101-105 '63. (MIRA 17:1)

L 23505-65 EWT(l)/EWT(m)/EPF(c)/EWG(v)/FCC/EEC-4/EPR/EEC(t)/EWP(t)/
EWP(b)/EWA(h) Pc-4/Pe-5/Pq-4/Pr-4/Ps-4/Pi-4/Pae-2/Peb [illegible]
GW-2

ACCESSION NR: AT5001568 S/2789/64/000/058/0009/0015

AUTHOR: Sokova, N. A.; Fedynskiy, A. V.; Chizhov, A. F.

TITLE: An investigation of the properties of the "omegatron" in measuring [illegible] nitrogen

SOURCE: [illegible] aerologicheskaya observatoriya. Trudy [illegible]

[illegible]

[illegible] nitrogen; nitrogen partial [illegible]

[illegible] of the omegatron [illegible]

the partial pressure of molecular nitrogen in rarefied mixtures of atm[illegible]
[illegible]

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grams. This omegatron differs additionally from that described by Chizhov (Trudy TSAO, No. 42, page 39, 1962) in the use of non-magnetic nichrome for the electrodes and the use of an additional diaphragm for adjustment of the electron beam. Optimum values of the working parameters are: $H = 2 \cdot 10^3$ gauss, accelerating voltage of the ionizing electrons 140 volts, collector voltage 0.4 volts, amplitude of the high frequency field 0.3 volts, emission current 5 ma. Resolution for masses of the order of molecular nitrogen is 7.5. Determination of the relative proportions of neon 20 and neon 22 in a gaseous mixture by measuring the ion current of the device is accurate to ± 10% to a partial neon pressure of $5 \cdot 10^{-5}$ mm. Hg, which is no worse than measurements made using a model EMU-3 amplifying electrometer. In order to make absolute measurements, the device is calibrated by measuring the ion current as a function of introduced molecular nitrogen. In order to attain the desired stability of the current as a function of pressure, particular attention has to be paid to increasing electrical insulation (to prevent leakage losses), to improving the cleanliness of the electrode surfaces (to retard gaseous sorption effects) and to using a longer warm-up period before calibration. An evaluation of the distortion introduced by using the ion pump described by Kostko and Fedynskiy (Trudy TSAO, No. 46, 1963) is made

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Comparative tables for the ion pump and oil and mercury diffusion pumps are given. It is concluded that sufficient accuracy is achieved with the ion pump for work with mass numbers of the order of molecular nitrogen. Orig. art. has: 8 figures and 2 tables.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central aerologic observatory)

SUBMITTED: 00 ENCL: 00 SUB CODE: ES, GP

NO REF SOV: 005 OTHER: 001

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L 22612-65 EWT(1)/FCC/EWA(h) Pc-4/Pq-4/Pae-2/Peb/Pt-10/Pi-4 GW-2

AUTHOR: Perov, S. P.; Chizhov, A. F.

TITLE: On the possibility of measuring the concentration of atomic oxygen at a height of 100—150 km by a heat-transducer method

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 56 [illegible] Physics of the upper atmosphere, Teoriya [illegible] of the Soviet Society [illegible] 121-127

TOPIC TAGS: molecular oxygen, atomic oxygen, heat transducer, [illegible] concentration, recombination heat, emission coeff, heat energy, [illegible]

ABSTRACT: [illegible] oxygen is totally dissociated [illegible] oxygen [illegible] which include recombination [illegible]

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L 22612-65
ACCESSION NR: AT5001573

heat, emission coefficient, and the Boltzmann constant [illegible]
shape of the instrument, and the dissipation energy of [illegible]
An overheating process caused by the recombination takes place at an altitude of 90 km when the atomic concentration is 10^{11} atoms per cubic centimeter. The maximum overheating under favorable [illegible] is 20°C. The main part of the measuring device is a [illegible] wire. The thermal equilibrium of the wire is expressed [illegible] in the case where a thermal head, and the temperature [illegible] measuring device [illegible] put into a see box with [illegible] atoms [illegible] measured in the box, [illegible] compared with the concentration in the free atmosphere. [illegible] has 1 figure, 3 tables, and 20 formulas.

ASSOCIATION: Tsentral'naym aerologicheskaya observatoriya (Central Aerological Observatory)

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L 12612-65

ACCESSION NR: AT5001573

SUBMITTED: 00	ENCL: 00	SUB CODE: ES
NO REF SOV: 012	OTHER: 006	ATD PRESS: 3172

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CHIZHOV, A.F.

Methodology of measuring the density of chemically active components in application to Soviet radio-frequency mass spectrometers. Trudy TSAO no.56:128-131 '64 (MIRA 18:1)

SOKOVA, N.A.; CHIZHOV, A.F.

Use of the mass spectrometric method for determining partial densities and temperatures of components of the upper atmosphere. Trudy TSAO no.61: 28-43 '65. (MIRA 18:7)

CHIZHOV, A.F.

Use of the theory of free molecular current for processing data receiving by means of a quadrupole mass filter. Trudy TSAC [illegible] [illegible]65. (MIRA 18:7)

CHIZHOV, A.I.

Endocrine secretion of the pancreas during lowered gastric secretion. Terap. arkh. 30 no.7:66-71 Jl '58 (MIRA 11:8)

1. Iz fakul'tetskoy terapevticheskoy kliniki (dir. - prof. A.G. Gukasyan) sanitarno-gigiyenicheskogo fakul'teta Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(GASTRIC JUICE,
secretion, relation to pancreatic juice secretion (Rus))
(PANCREAS,
juice, secretion, relation on gastric juice secretion (Rus))

CHIZHOV, A. I.: Master Med Sci (diss) -- "The external-secretory function of the pancreas in hypo- and an-acid states of the stomach". Moscow, 1959. 8 pp (KL, No 12, 1959, 133)

KHIZHOV, A.I., kand.med.nauk

Complications and treatment of patients in the immediate post-operative period following mitral commissurotomy. Terap.arkh. no.6:83-86 '62. (MIRA 15:9)

1. Iz kardiologicheskogo otdeleniya (zav. - prof. V.Ye. Nezlin) Instituta serdechno-sosudistoy khirurgii (dir. - prof.S.A. Kolesnikov, nauchnyy rukovoditel' akad. A.N. Bakulev AMN SSSR.
(MITRAL VALVE--SURGERY) (POSTOPERATIVE CARE)

S/536/61/000/052/007/008
D201/D301

13 2520

AUTHOR: Chiznov, A.I., Engineer

TITLE: Determining a gyromotor rotor starting time

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no. 52, 1961. Nekotoryye voprosy sovremennoy teknnologii priborostroyeniya, 80 - 84

TEXT: The author considers results of partial automation of measurements of the starting time of the rotor of an industrial type gyro. Since during starting the gyro motor consumes a continuously varying amount of current, the time dependence of starting current was determined. It was proved that a differentiating RC circuit could be used in conjunction with the stopper. Using such a circuit ($U_{act} = TU_{in}$ (T - the time constant of the differentiating network) and if U_{in} is a voltage across a constant resistance R in series with one of the gyromotor phases, the output voltage U_{out} of the RC circuit becomes proportional to U_{in}. Experimental graphs of start-

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Determining a gyromotor rotor ...

ing current show that for values of R ≤ 2 ohms, the motor current is not affected and this feature allows automatic recording of the start time of the gyromotor. The automatic test arrangement has an electromagnet which starts a stopper when the power is switched on. The current taken produces a voltage drop across the constant resistor R, varying with the speed of the motor; it is initially +ve and then decreases to zero and becomes negative. When the -ve value of the voltage drop becomes 25 mV, a relay opens the circuit of the electromagnet which automatically stops the stopper. There are 5 figures.

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9.2530

S/103/61/022/002/012/015
B019/B060

AUTHORS: Leskov, V. G., Chizhov, A. I., Chicherin, N. I. (Leningrad)

TITLE: Some diagrams of half-wave (high speed) magnetic amplifiers for servodrives

PERIODICAL: Avtomatika i telemekhanika, v 22, no. 2, 1961, 250-258

TEXT: A study has been made of three diagrams of magnetic amplifiers displaying certain improvements compared with other known diagrams. The first part of the present paper is devoted to a discussion of a double-branch half-wave magnetic amplifier with a strong capacitive positive a-c feedback. The main elements of the circuit as well as its mode of operation are described with the aid of Fig. 1. If a magnetic amplifier of this kind has a phase-sensitive rectifier circuit as shown by Fig. 3 and as suggested by V. G. Baranovskiy, an output voltage will then be obtained owing to the properties of the magnetic amplifier, one component of which will be proportional to the input signal, while the second component will be proportional to the variation rate of the d-c component of the input voltage of the phase-sensitive rectifier. These properties

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Some diagrams of half-wave ...

indicate a good usability for servodrives. The second part deals with two double-branch half-wave magnetic amplifiers with a high Q factor. Magnetic amplifier controls are made by way of a change of the magnetic state of the cores through a change of the d-c component of the magnetic field. In magnetic amplifiers with a positive feedback this task can be solved either by changing magnitude and direction of the current in the control coils or by changing the positive feedback though a change of the rectification factor. The second possibility allows, as shown by tests, working out high-quality magnetic amplifiers. Fig. 4 shows a high-speed, push-pull magnetic power amplifier with a-c output. The respective control is done by changing the internal feedback with the aid of transistors controlling the feedback factor. This circuit has a large power amplification factor (larger than $1.5 \cdot 10^5$), low inertia, ($K_p/\tau \approx 7.5 \cdot 10^7$, K_p being the power amplification factor, τ the time constant; moreover it is easy to assemble and has a large linear part of the characteristic. A further development of this diagram is shown in Fig. 5. As may be seen, this diagram dispenses with rectifiers in the

Some diagrams of half-wave ...

feedback circuit and replaces them by transistors. After a thorough discussion of the properties of this diagram it is pointed out that the joint use of transistors and magnetic amplifiers permits working out amplifier systems satisfying all requirements regarding operational safety, quick response, minimum weight, and size, provided the amplification factors and output power are sufficiently large. There are 6 figures and 4 Soviet-bloc references.

SUBMITTED: March 4, 1960

Legend to Fig. 1: Two variants of magnetic amplifiers.
Legend to Fig. 3: 1) amplifier according to diagram in Fig. 1a.
(See next card for figs.)

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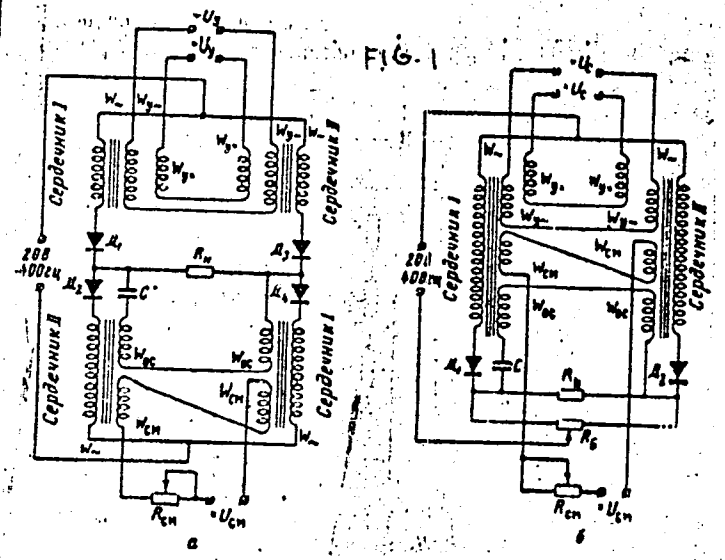
S/103/61/022/002/012/015
B019/B060

Some diagrams of half-wave ....

FIG. 1



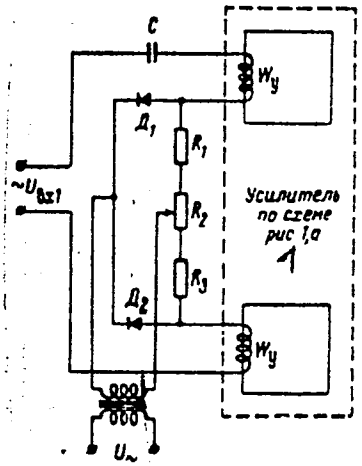


Рис. 3

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Some diagrams of half-wave ...

Legend to Fig. 4: High-speed push-pull magnetic power amplifier.

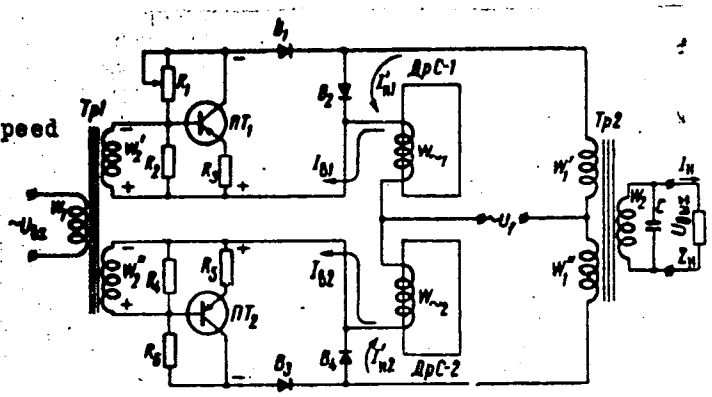

Рис. 4

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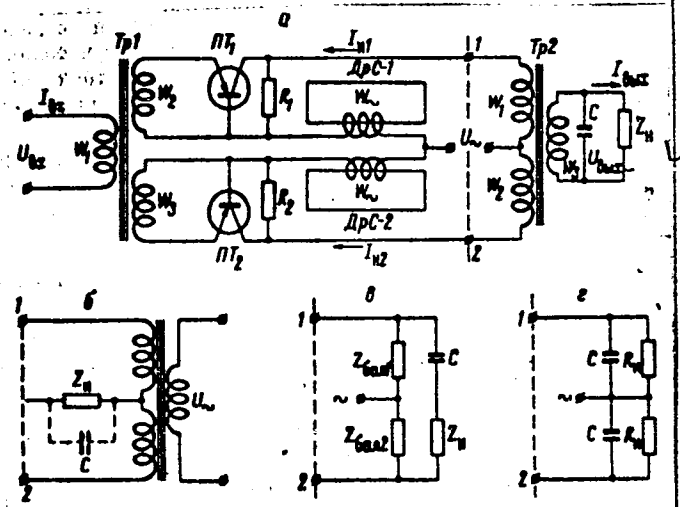
B019/B060

Some diagrams of half-wave ...



Legend to Fig. 5: Further development of diagram shown in Fig. 4.

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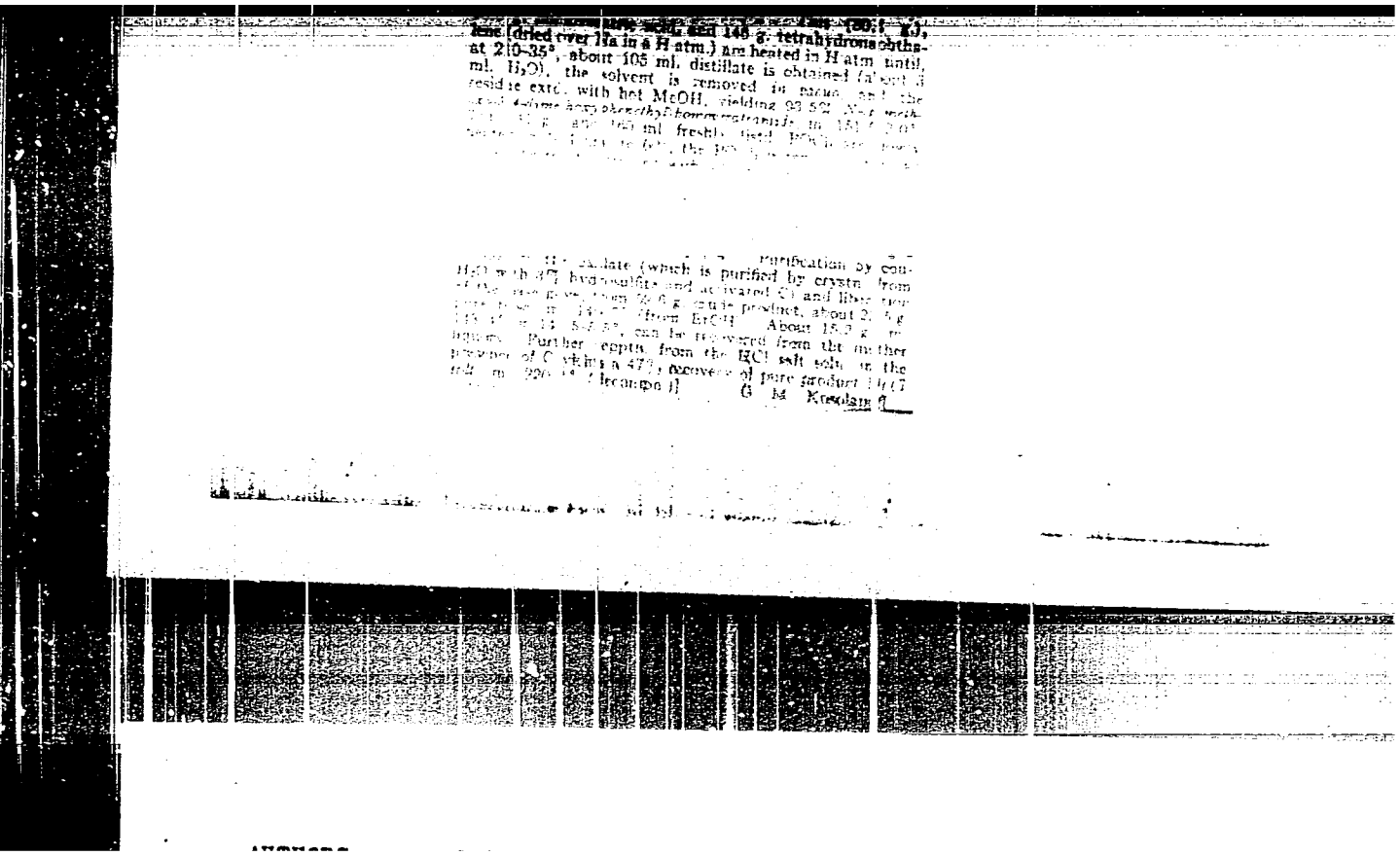
NAKHMANSON, V.M.; OSIDZE, D.F.; SEROV, M.F.; ALEKSANDROVA, V.T.; SOLOV'YEV, S.; MALYSHEV, N.; IVANENKO, N.M.; POTATURKIN, V.; CHIZHOV, A.I.; MIKHAYLOV, N.N.

In the Soviet Union. Veterinariia 39 no.1:88-96 Ja '63. (MIRA 16:6)

(Veterinary medicine)

CHIZHOV, A.I. (Moskva)

Potentials of mountain valleys. Priroda 53 no.4:123 '64.(MIRA 17:4)



79-28-5-10/69

Synthesis of Azabicyclo-(3,2,1)-Octane-7-Carboxylic Acid

The nicotine aldehyde (II) was condensed with malonic acid ester in the presence of piperidine at room temperature; there the diethyl ester of 2-(pyridil-3')-2-oxyethane dicarboxylic acid of the acid-1,1(II) formed. The heating of the latter (II) with acetic anhydride caused the splitting off of a molecule of water and the separation of diethyl ester of 2-(pyridil-3')--vinyldicarboxylic acid-1,1 (III). The chlorine hydrate of (III) was reduced in alcohol solution in the presence of platinum oxide according to Adams, the chlorine hydrate of diethyl ester of the 2-(piperidil-3')-ethanedicarboxylic acid-1,1 (IV) having been obtained on this occasion. In order to further make possible the conversion from 3-substituted piperidine to the azabicyclic system compound (IV) was treated with bromine in chloroform. The synthetized diethyl ester of 2-(piperidil-3')-1-bromethanedicarboxylic acid-1,1 (V) on heating with pyridine converted to 7,7 dicarboethoxy-1-azabicyclo-(3,2,1)-octane (VI). On boiling this diester with concentrated hydrochloric acid the chlorine hydrate of 1-azabicyclo-(3,2,1)-octane-7-carboxylic

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Synthesis of 1-Azabicyclo-(3,2,1)-Octane-7-Carboxylic Acid

acid (VII) resulted. There are 3 references, 1 of which is Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut (All-Union Scientific Chemical and Pharmaceutical Research Institute)

SUBMITTED: April 15, 1957

AUTHORS: Sergiyevskaya, S. I., Levshina, K. V., Chizhov, A. K., Gavrilova, A. I., Kravchenko, A. I. SOV/79-28-7-24/64

TITLE: N-Di(Ethyl Chloride) Amines of the Alicyclic Series. I(N-Di (khloretil) aminy alitsiklicheskogo ryada. I)

PERIODICAL: Zhurnal obshchey khimii, Vol 28, Nr 7, pp. 1839 - 1845 (USSR)

ABSTRACT: The authors discuss the synthesis and some properties of the dichloroalkylamines of the cyclopentane-, cyclohexane- and cycloheptane series. They synthetized the compounds of two types: In the one (Formula I) the di(chloroalkyl) amino group is directly bound to the carbon of the nucleus, and in the other to the carbon of the side chain (II). The compounds of type (II) are alicyclic derivatives of methyl-N-bis (ethyl chloride) amine which is of importance for medicine. The two methods used most were employed for the synthesis of N-di(ethyl chloride) amine: according to the one [=(a) of Table 1] the ethylene oxide reacts with the amino compounds, according to the other [=(b) of Table 1] the compounds containing halogens are caused to react with diethanol amine. The final stage, i.e. the substitution of the hydroxyl groups by chlorine is the same

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for both methods, according to the specific characteristic features of the N-di(oxyethyl-)amines. The synthesis of the dichloro-alkyl amines of type (I) had to be carried out according to method (a). The necessary alicyclic amines as initial products had been obtained in the cyclopentane- and cycloheptane series by the reduction of the ketone oximes, and in the cyclohexane series by the catalytic hydration of the aromatic amino compounds. The chloro-methyl derivatives of the same alicyclic hydrocarbons served as initial products for the synthesis of the compounds of type (II). The chloro-methyl cycloalkanes were obtained according to the reaction scheme mentioned. Thionyl chloride served as chlorination agent (I and II)(substitution of hydroxyl by chlorine).There are 2 tables and 8 references, 2 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze (All-Union Scientific Chemical and Pharmaceutical Institute imeni S. Ordzhonikidze)

N-Di(Ethyl Chloride) Amines of the Alicyclic Series. I SOV/79-28-7-24/64

SUBMITTED: February 7, 1957

1. Dichloroalkylamines--Synthesis 2. Dichloroalkylamines--Properties
3. Cyclic compounds--Molecular structure 4. Ethyl chloride amines
--Chemical properties

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AUTHORS: Sergiyevskaya, S. I., Levshina, E. V., Gavrilova, A. I., Chizhov, A. F. 507/79-28-7-25/64

TITLE: N-Di (Chloro-Ethyl) Amines with Alicyclic and Aromatic Radicals in the Molecules. II (N-di(khloretil)aminy s alitsiklicheskimi i aromaticheskimi radikalami v molekulakh. II)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 7, pp. 1845-1849 (USSR)

ABSTRACT: The aim of the present investigation was the synthesis of the N-di(chloro-ethyl)amines which should have an aromatic and an alicyclic radical in the molecule. The structures of these compounds may be seen from the reaction scheme: the compounds (I) and (II) appear as arylated analogs of some N-di(chloro-ethyl)amines of the alicyclic series already earlier described by the authors (Ref 1). The compounds (III) differ from (I) and (II) by the fact that the aromatic radical is not a component of the alicyclic radical. The corresponding cyanogen compounds served as initial products, viz., the nitriles Ar-CN for the types (I) and (II), and the nitrile

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N-Di (Chloro-Ethyl) Amines with Alicyclic and Aromatic Radicals in the Molecules. II

N-CH-CN for type (III), where R denotes an alicyclic radical.
|
C_6H_5

All these nitriles are easily obtained by the condensation of the cyanobenzilles with 1,4-dibromobutane, 1,5-dibromopentane and bromocyclohexane in the presence of sodium amide. The reduction of the nitriles to primary amines was carried out either catalytically with hydrogen or by means of lithium-aluminum hydride. The transition from amines to their N-di-(ethyloxy)-derivatives and from these to the N-di(chloroethyl) amines took place according to reference 1. In the purification of the hydrogen chloride salts of the above mentioned amines the solvents had to be selected carefully. The authors synthesized the hitherto not described N-di(chloroethyl) amines and some other compounds of the cyclopentane- and cyclohexane series. There are 1 table and 5 references, 3 of which are Soviet.

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SOV/79-28-7-25/64

N-Di (Chloro-Ethyl) Amines With Alicyclic and Aromatic Radicals in the Molecules. II

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze (All-Union Scientific Chemical and Pharmaceutical Research Institute imeni S. Ordzhonikidze)

SUBMITTED: February 7, 1957

1. Ethyl chloride amines--Molecular structure 2. Ethyl chloride --Synthesis 3. Cyclic compounds--Chemical properties

Card 3/3

AUTHORS: Chizhov, A. K., Rubtsov, M. V. SOV/79-29-1-29/74

TITLE: Synthesis of the 7-Monosubstituted Compounds of 1-Azabicyclo-[3,2,1]-Octane (Sintez 7-monozameshchennykh 1-azabitsiklo-[3,2,1]-oktanov)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 130-136 (USSR)

ABSTRACT: In the previous report (Ref 1) the authors described the synthesis of the 1-azabicyclo-[3,2,1]-octane-7-carboxylic acid. Owing to its reactive carboxyl group this acid can be used in the synthesis of various 7-monosubstituted compounds of the 1-azabicyclo-[3,2,1]-octanes. These compounds are very interesting in the biological research work as far as among the isomeric 2-monosubstituted compounds of quinuclidine (Ref 2) pharmacologically active products could be found. In the present paper the synthesis of the 7-monosubstituted compounds of 1-azabicyclo-[3,2,1]-octanes were described, i.e. of the amides, amines, hydrazides, esters, alcohols, halides, chloric acid anhydrides of the acids and some quaternary salts. For the synthesis of these compounds the 1-azabicyclo-[3,2,1]-octane-7-carboxylic acid (I) was used as initial product which was transformed into the chloric acid anhydride (II) and furthermore

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into the 7-monosubstituted compounds of 1-azabicyclo-[3,2,1]-octanes according to the scheme mentioned. The synthesized bases (VI), (XI), (XVIII), and (XX) were converted by methyl iodide into the corresponding methiodides (VII), (XII), (XIX), and (XXI). The dimethiodides of the 7-(γ-diethyl-amino propyl)-1-azabicyclo-[3,2,1]-octane (XIX) and diethyl-amino ethyl ester of the initial acid (XXI) show a pronounced blocking action on the ganglia of the vegetative nerve system which as regards its character approaches the effect of dioquine, the dimethiodide of the diethyl-amino ethyl ester of the quinuclidine-2-carboxylic acid (Ref 4). It was shown that the halogen atom in the molecule of 7-chloro methyl-1-azabicyclo-[3,2,1]-octane, unlike the 2-chloro methyl quinuclidine described in publications, has a high mobility and is able to undergo condensation with the sodium malonic ester. There are 4 references, 3 of which are Soviet.

Synthesis of the 7-Monosubstituted Compounds of 1-Azabicyclo- 3,2,1 -Octane

SOV/79-29-1-29/74

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze (All-Union Chemico-pharmaceutical Scientific Research Institute imeni S. Ordzhonikidze)

SUBMITTED: November 14, 1957

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5(3)

AUTHORS: Levshina, K. V., Chizhov, A. K., Sheynker, Yu. N., Sergiyevskaya, S. I.

SOV/79-29-4-31/77

TITLE: Sulfonic Esters of the Cyclohexane Diols and the 1,4-Butane Diol (Sul'fonovyye efiry tsiklogeksandiolov i 1,4-butandiola)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1184-1188 (USSR)

ABSTRACT: Some alkyl sulfonic esters of aliphatic diols proved to be useful active agents against some kinds of cancer. The authors had to decide whether the amount and structure of the radical of sulphur had any effect on the biological properties of the sulfonic esters of 1,4-butane diol, and whether the diol necessarily belonged to the aliphatic series. Alkyl sulfonic esters of 1,4-butane diol with the radicals C_2H_5, C_3H_7, cyclo-C_6H_{11} and alkyl sulfonic esters of the isomeric cyclohexane diols (1,2;1,3;1,4) were synthesized. All these compounds were obtained through a transformation of the corresponding sulfochlorides with the diols in waterr-free benzene and in the presence of triethyl amine. The synthesis of the sulfochlorides was carried out according to references 2 and 3. The initial

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cyclohexane diols were prepared by catalytic hydrogenation of the corresponding bivalent phenols. Particular interest was caused by the alkyl sulfonic esters of the 1,4-cyclohexane diol, since they are structurally closest to the highly active esters of 1,4-butane diol. For this reason not only methane, but also ethane and propane sulfonates were obtained. The mixture of stereo-isomeric 1,4-cyclohexane diols was separated by recrystallization into cis- and trans-compounds. Starting from the cis- and trans-diols two series of alkyl sulfonates were obtained. The assumed cis- and trans-forms, however, had identical melting points and physicochemical properties. Their infrared absorption spectra were identical as well, while those of the initial 1,4-diols and the isomeric alkyl sulfonates of the 1,2- and 1,3-cyclohexane diol were different (Figs 1,2). Thus it was proved that only one product forms by the reaction of the corresponding alkyl sulfochlorides with cis- and trans-1,4-cyclohexane diols, and that, consequently, an inversion of the less stable form into the stabler one takes place in the course of the reaction. Since the change of the alkyl group in

the synthesized 1,4-alkyl sulfonates of the cyclohexane (methyl-, ethyl, propyl sulfonates) does not cause any sizable changes in the spectrum (Fig 3), it may be assumed that various alkyl sulfonates exhibit the very same configuration, and that the form in question is the stable trans-form. The biological properties of the compounds obtained generally correspond to those of "milerane" (Mileran). There are 3 figures, 1 table, and 8 references, 3 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze (All-Union Scientific Chemopharmaceutical Research Institute imeni S. Ordzhonikidze)

SUBMITTED: February 10, 1958

CHIZHOV, A.K.; LEVSHINA, K.V.; SERGIYEVSKAYA, S.I.

Bis (β-chloroethyl) aminomethyl derivatives of azobenzene. Part 1: Method of synthesizing bis (β-chloroethyl) amines of 4-substituted-4'-methylazobenzene. Zhur. ob. khim. 30 no.11:3695-3700 N'60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(Azobenzene)

CHIZHOV, A.K.; LEVSHINA, K.V.; SERGIYEVSKAYA, S.I.

Bis (β-chloroethyl) amines of bicyclic compounds. Part 3: Some derivatives of benzocycloheptane with substituents in position 7 of the bicyclic compound. Zhur. ob. khim. 30 no.11:3700-3702 N'60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Cycloheptabenzene)

S/080/60/033/04/44/045

AUTHOR: Chizhov, A.K.

TITLE: The Production of 6-Cyano-Benzocycloheptane-Imine-7

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 4, pp 988 - 989

TEXT: A special device was developed for the reaction. It is shown in a diagram. Into a reaction retort with a capacity of 2,000 ml, 500 ml of absolute ether is poured and a lithium wire of 5.6 g and 1.5 mm in diameter is put into it. During mixing in a nitrogen flow 64 g of bromobenzene is added. The temperature of the reaction mixture is maintained at 40°C. After mixing for 30 minutes 100 g of monomethylaniline is added in the course of 1 hour. Then in the course of 20.5 hours, 300 ml of a benzene-ether solution of 41 g of o-di-(β -cyanoethyl)-benzene is added. The mixture is cooled to room temperature and 300 ml of water is added. It is heated at 50°C for 1 hour and 5 minutes, it is cooled, a precipitate is filtered off. The ether-benzene layer is separated from the water layer and is dried with potash. A precipitate is formed which is dissolved by heating the retort on a water bath. The warm solution is filtered and evaporated in the vacuum at 65 - 70°C. The crystallizing reaction product is filtered off after standing for 12 hours and washed on the filter with ether. 25.7 g

Card 1/2

CHIZHOV, A.K.; LEVSHINA, K.V.; SERGIYEVSKAYA, S.I.

Bis (β-chloroethyl) aminomethylazobensenes and some analogous compounds. Zhur. ob. khim. 31 no.4:1288-1297 Ap '61. (MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Azobenzene)

CHIZHOV, A.K.

Derivatives of 1-azabiscyclo-(3, 2, 1)-octane, analogous to quinine alkaloids. Zhur.ob.khim. 31 no.10:3469-3477 O '61. (MIRA 14:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.

(Quinine) (Alkaloids)

CHIZHOV, A.K.; LEVSHINA, K.V.; SERGIYEVSKAYA, S.I.

Bis(β-chloroethyl) aminomethyl derivatives of azobenzene. Part 3: p-Hydrozy-m-(o)-carboxy-p'-bis(β-chloroethyl)-aminomethylazobenzenes, their derivatives and analog compounds. Zhur. ob. khim. 34 no. 5:1587-1592 My '64. (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.

L 00464-66 EWT(1)/FCC/EWA(h) GW

ACCESSION NR: AT5013406 UR/2789/65/000/061/0028/0043 45 42 B+1

AUTHOR: Sokova, N. A.; Chizhov, A. F. 44,55 44,55

TITLE: Use of the mass spectrometric technique for determining partial densities and temperatures of the components of the upper atmosphere

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 61, 1965. Fizika vysokikh sloyev atmosfery, teoriya i metody issledovaniya (Physics of high atmospheric layers, theory and methods of investigation), 28-43

TOPIC TAGS: mass spectrometer, 44,55,12 upper atmosphere, upper atmosphere density, upper atmosphere temperature 44,55, 12

ABSTRACT: Analytical expressions were obtained which make it possible to calculate the absolute and relative partial densities of the components of atmospheric air both in the laboratory and in the free atmosphere from primary mass spectra. The expressions obtained can be used for processing mass spectra of atmospheric air. It is shown that many expressions are considerably simplified in various high-altitude intervals. A method of calculating the temperature of the free atmosphere for the case of multiple lines of the mass spectrum is proposed. It is shown that the omegatron is the most sensitive mass spectro-

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L 00464-66

ACCESSION NR: AT5013406

3

meter for measuring the temperature of the free atmosphere. The need for a more accurate experimental determination of the sensitivity coefficients S_{ij} and S'_{ij} is emphasized. Orig. art. has: 2 figures, 2 tables, and 51 formulas.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

44,55

SUBMITTED: 00 ENCL: 00 SUB CODE: ES, GP

NO REF SOV: 032 OTHER: 009

Card 2/2

L 00467-66 EWT(1)/FCC/EWA(h) GW

ACCESSION NR: AT5013407 UR/2789/65/000/061/0044/0049

AUTHOR: Chizhov, A. F. 44,55

TITLE: Use of the theory of free molecular flow for processing data obtained with a quadrupole mass filter

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 61, 1965. Fizika vysokikh sloyev atmosfery, teoriya i metody issledovaniya (Physics of high atmospheric layers, theory and methods of investigation), 44-49

TOPIC TAGS: mass spectrometer, upper atmosphere composition, ion source, quadrupole mass filter, atmospheric data processing

ABSTRACT: In mass-spectrometric measurements of the partial densities of the components of the upper atmosphere, one of the main difficulties is the loss of atoms on the walls of the measuring instrument. It is desirable, therefore, to construct a mass spectrometer in which this loss is reduced to a minimum. The article considers one of the possible theoretical schemes of interaction between the oncoming flux and the ion source of the mass spectrometer used by E. I. Schaefer (Journ. of Geophs. Res., Vol. 68, No. 4, 1963), in which use is made of a quadrupole filter. In Schaefer's instrument, the atoms recombine to a much

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L 00467-66

ACCESSION NR: AT5013407

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lesser degree than in the existing radio-frequency mass spectrometers, but the Schaefer ion source disturbes the oncoming flux considerably. The mass selection coefficient of the Schaefer source indicates that the latter is not free of mass selection. Partial densities of the main components of the free atmosphere, obtained by recalculating the experimental data of Schaefer (E. I. Schaefer, M. N. Nicholes, The University of Michigan. Ann Arbor, Mich., USA, NASA Contract No. NASr - 54 (05), Washington, D.C., USA) in accordance with the proposed theory, basically agree with the results obtained by other authors. Orig. art. has: 6 figures and 5 formulas.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

44 55

SUBMITTED: 00 ENCL: 00 SUB CODE: ES, DP

NO REF SOV: 017 OTHER: 003

Card 2/2

CHIZHOV, A.M., kand.tekhn.nauk

Experimental check on the stability of reinforced concrete beams. Bet.i zhel.-bet. 9 no.12:545-547 D '63. (MIRA 17:2)

CHIZHOV, A.M., inzh.; SIVERTSEV, I.N., doktor tekhn.nauk, prof., otv.red.

[Calculations for the reinforced concrete construction of ships for tensile and flexural strength] Raschet sudovykh zhelezobetonnykh konstruktsii na izgib s rastiazheniem. Gor'kii, GIIVT, 1959. 29 p (Gorkiy. Institut inzhenerov vodnogo transporta. Trudy, no. 26) (MIRA 14:3)

(Naval architecture—Tables, calculations, etc.)
(Ships, Concrete)

CHIZHOV, A.M., inzh.

Using precast reinforced concrete for stationary ships. Rech. transp. 18 no.1:26 Ja '59. (MIRA 12:2)
(Ships, Concrete)

YEGOROV, N.M., kand.tekhn.nauk; CHIZHOV, A.M., inzh.

Erroneous recommendation. Rech.transp. 18 no.9:25-26 S '59. (MIRA 13:2)
(Ships, Concrete)

CHIZHOV, A.K., Cand Tech Sci - - (diss) "Consideration of Reinforced concrete ship construction on bending with tension," Gor'kiy, 1960, 20 pp (Gor'kiy Institute of Engineers of Water Transport) (KL, 34-60, 123)

CHIZHOV, A.M., kand.tekhn.nauk

Ways of improving the construction of section joints in reinforced concrete ships. Sudostroenie 29 no.5:54-56 My '63. (MIRA 16:9)
(Ships, Concrete)

CHIZHOV, A.N.

Studying sludge ice phenomena in mountain rivers. Trudy GGI no.65:84-99 '58. (MIRA 12:1)
(Ice on rivers, lakes, etc.)

Chizhov, A.N.

10 июня

(с 10 до 16 часов)

Ю. К. [illegible]

Новый метод [illegible] решения интегрального уравнения теории антенн.

В. Н. Т[illegible]

К вопросу о [illegible] диэлектрических волноводов.

Ф. Г. [illegible]

Спектр [illegible] с [illegible] луча.

10 июня

(с 18 до 22 часов)

Г. З. [illegible]

Фокусирующие свойства дифракционных отражателей (решеток).

А. Н. Чижов

Метод измерения коэффициента направленного действия антенн на малых расстояниях.

10

В. С. [illegible]

Н. А. [illegible]

Влияние условий распространения на антенны, работающие на линиях, использующих [illegible] рассеяние радиоволн в тропосфере.

С. Н. [illegible]

Антенна бегущей волны для приема средних волн.

В. Д. [illegible]

А. Н. [illegible]

Система многократного использования сложных направленных антенн.

11 июня

(с 10 до 16 часов)

Н. С. [illegible]

Дифракция электромагнитных волн на [illegible] линии.

В. С. [illegible]

Расчет [illegible] [illegible] [illegible] [illegible].

В. Н. [illegible]

О статистических характеристиках коэффициента отражения волн в случайно неоднородных линиях передачи.

11

Report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORiE), Moscow, 8-12 June. 1959

CHIZHOV, A.N.

CHIZHOV, A.N.

Method of studying frazil ice in mountain rivers. Trudy GGI no.90: 103-122 '60. (MIRA 14:1)
(Ice on rivers, lakes, etc.)

CHIZHOV, A.N.

Heat exhange and thermal regime of mountain rivers. Trudy GGI no.83:21-27 '60. (MIRA 14:1)
(Rivers—Temperature) (Ice on rivers, lakes, etc.)

CHIZHOV, A.N.

Formation and flow of frazil ice in mountain rivers. Trudy GGI no.93:3-23 '62. (MIRA 16:3)
(Naryn River--Ice on rivers, lakes, etc.)

CHIZHOV, A.N.

Some types of mountain stream ice regimes. Trudy GGI no.103: 57-69 '63. (MIRA 16:7)

(Ice on rivers, lakes, etc.)

CHIZHOV, A.N.

Formation of ice jams on mountain rivers. Trudy GGI no.129:44-66 '65.
(MIRA 18:10)

CHEPIGIN, G. V., inzh.; NEKHAY, S. M., inzh.; GUL', N. S., inzh.; CHIZHOV, A. P., inzh.

Replacing the double-cleaning oil filter with a full-flow centrifuge. Mashinostroenie no.5:95 S-O '62. (MIRA 16:1)

(Tractors—Engines—Oil filters)

CHEPIGIN, G.V., kand.tekhn.nauk; GUL', N.S., inzh.; CHIZHOV, A.P., inzh.
KHESIN, A.Ya.

Results of the operational tests of a full-flow RMTs device on the SMD diesel engine. Trakt. i sel'khozmash. 32 no.6:12-14 Je '62.
(MIRA 15:6)

1. Dnepropetrovskiy sel'skokhozyaystvennyy institut (for Chepigin, Gul', Chizhov). 2. Gosudarstvennoye spetsial'noye konstruktorskoye byuro po dvigatelyam (for Khesin).
(Tractors—Oil filters)

CHEPIGIN, G.V., kand. tekhn. nauk; GUL', N.S., inzh.; CHIZHOV, A.P., inzh.

Use of cast-iron crankshafts in motor-vehicle and tractor engines. Mashinostroenie no.5:112-113 S-O '63. (MIRA 16:12)

1. Dneprop.etrovskiy sel'skokhozyaystvennyy institut.

CHEPIGIN, G.V.; GUL', N.S.; CHIZHOV, A.P.

Experiments in the use of cast iron crankshafts in tractor diesel engines. Trakt. i sel'khozmash. 33 no.8:44-45 Ag '63. (MIRA 16:11)

1. Dnepropetrovskiy sel'skokhozyaystvennyy institut.

CHIZHOV, A.T., kandidat tekhnicheskikh nauk.

Mechanization of ballast work. Transp.stroi. 6 no.2:27-28 F '56.
(Ballast) (MLRA 9:6)

CHIZHOV, A.T

NOVOZHILOV, G.I., kand. tekhn. nauk; CHIZHOV, A.T., kand. tekhn. nauk.

New working methods in assembling yards. Transp. stroi. 7 no.11: 27-28 N '57. (MIRA 11:2)
(Loading and unloading) (Railroads--Construction)

CHIZHOV, A.T.

CHIZHOV, A.T., kand.tekhn.nauk

"Mechanization of track maintenance on foreign railroads."
V.S.Bezruchko, V.I. Platov, K.E. Ivanov. Reviewed by A.T.Chizhov.
Put' i put.khoz. no.12:47 D '57. (MIRA 10:12)
(Railroads--Maintenance and repair) (Bezruchko, V.S.)
(Platov, V.I.) (Ivanov, K.E.)

CHIZHOV, A.T., kand.tekhn.nauk

Economic and technical indexes of the rolling of earthwork using trains. Transp.stroi. 9 no.9:50-51 S '59.
(MIRA 13:2)

(Railroads--Track)

CHIZHOV, A.T., kand. tekhn. nauk

Small-scale mechanization in maintaining railroads in the German Democratic Republic. Transp. stroi. 9 no.11:54 N '59 (MIRA 13:3)
(Germany, East--Railroads--Equipment and supplies)

CHIZHOV, A.T., kand.tekhn.nauk

Marking the 150th anniversary of the Leningrad Railroad Engineers Institute. Transp.stroi. 9 no.12:54 D '59. (MIRA 13:5)

(Leningrad--Railroad engineering--Study and teaching)

CHIZHOV, A.T., kand.tekhn.nauk; KOSTYUKOVICH, A.R., inzh.

New developments in laying switches. Transp. stroi. 12 no.8: 14-16 Ag '62. (MIRA 15:9)

(Railroads--Switches)

ROZANOV, A.A., inzh.; CHIZHOV, A.T., inzh.; ULANTSEV, I.D., inzh.

Manual on the mechanization of ballasting. Transp.stroi. 13 no.9: 73-74 S '63. (MIRA 16:12)

CHIZHOV, A.T., kand.tekhn.nauk

Transporting railroad switches on a rollingstock. Transp.stroi. 13 no.9:7-8 S '63. (MIRA 16:12)

CHIZHOV, A.T., kand.tekhn.nauk

Replacing one-piece timbers. Transp. stroi. 12 no.3:12-14 Mr '62. (MIRA 16:11)

ZAYTSEV, P.I.; LIZOGUB, I.G.; PETRUKOVICH, A.A., zasl. deyatel' nauki i tekhniki Uz.SSR; SMYKOV, Ye.K.; CHIZHOV, A.T.; YAKOBSON, S.I.; ANDREYEV, G.Y., dots., retsenzent; GRECHUK, V.S., dots., retsenzent; NEKHAY, V.T., red.

[Mechanization of the assembly, laying and exchange of switches] Mekhanizatsiia sborki, ukladki i smeny strelochnykh perevodov. Minsk, Vysshaia shkola, 1964. 69 p. (MIRA 18:3)

1. Leningradskiy institut inzhenerov zheleznodorozhnogo transporta, kafedra "Zheleznodorozhnyy put'" (for Andreyev, Grechuk).

ACCESSION NR: AP4014676 S/0108/64/019/001/0057/0062

AUTHOR: Chizhov, A. V.; Dobzhinskiy, B. N.

TITLE: Errors in measuring variable frequency by the counting-zeros method

SOURCE: Radiotekhnika, v. 19, no. 1, 1964, 57-62

TOPIC TAGS: FM variable frequency, FM variable frequency measurement, counting zeros frequency measurement, frequency measurement error

ABSTRACT: The counting-zeros method for the accurate measurement of "instantaneous" frequency in FM circuits is theoretically considered. Two types of error are inherent in the method: (1) the error due to the nonlinear nature of frequency variation and (2) the error due to the discrete-counting device. The relation between the values of these errors and the averaging time of measurement is investigated. This formula for selecting the averaging time is recommended:

Card 1/2

ACCESSION NR: AP4014676

$$\xi(\Delta_{1\max} T_m, t_{\max}) \geq T_a > \frac{2}{\Delta_{2\max}}.$$

where Δ_1 and Δ_2 are errors due to the two causes mentioned above, T_m is the FM period, t_{max} is a moment of time corresponding to Δ_1 maximum, T_a is the averaging time, and ξ is a function $T_a = \xi(t_{max} \mid \Delta_{1\,max} \mid)$. Orig. art. has: 2 figures and 20 formulas.

ASSOCIATION: none

SUBMITTED: 02Mar62 DATE ACQ: 07Feb64 ENCL: 00

SUB CODE: GE NO REF SOV: 000 OTHER: 001

Card 2/2

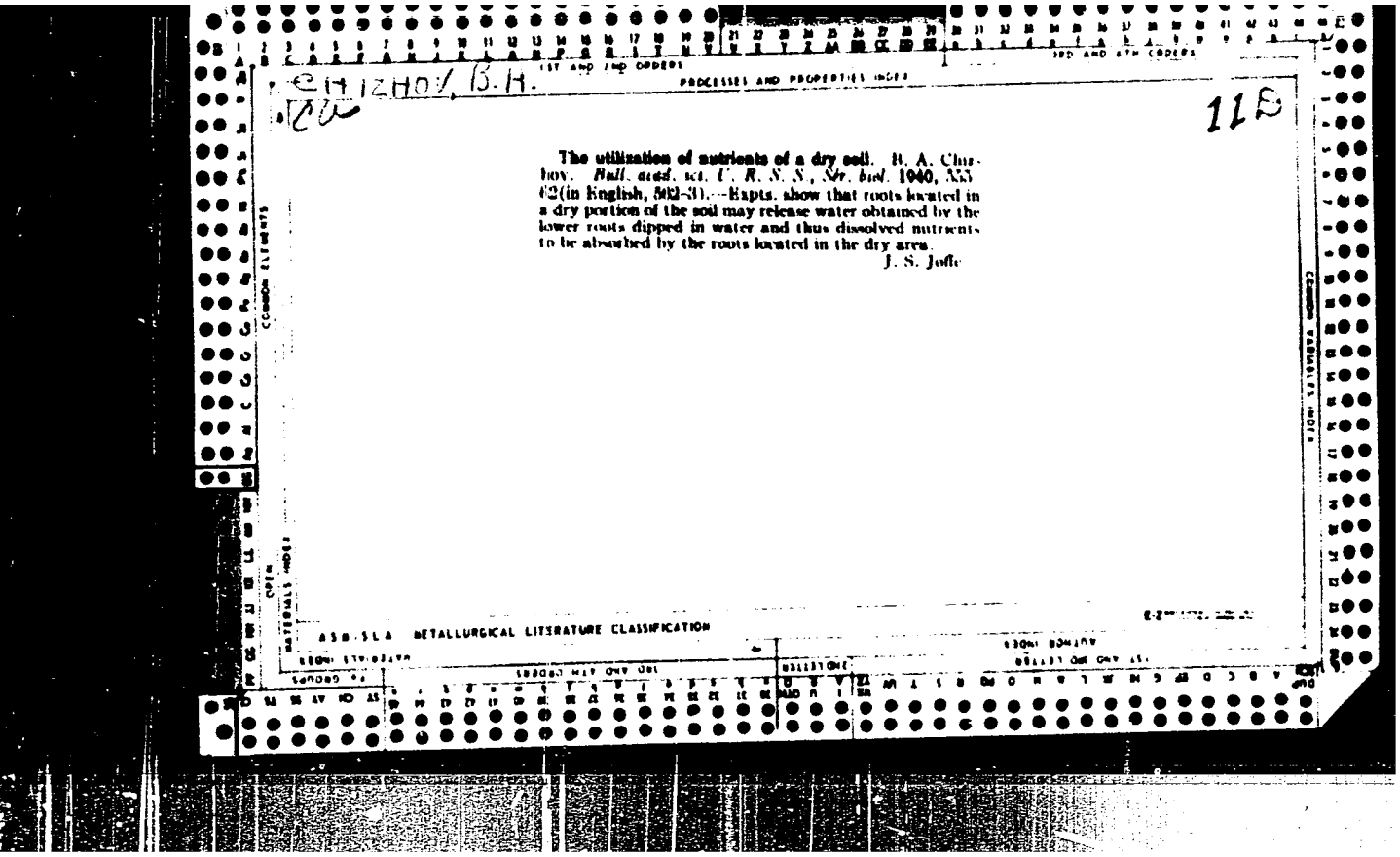
VDOVENKO, V.M.; KRIVOKHATSKIY, A.S.; CHIZHOV, A.V.

Extraction of chlorides with mixed solvents. Zhur. neorg. khim. 5 no.10:2363-2365 O '60. (MIRA 13:10)
(Chlorides)

PARAMONOVA, V.I.; NEREYCHUK, A.S.; CHIZHOV, A.V.

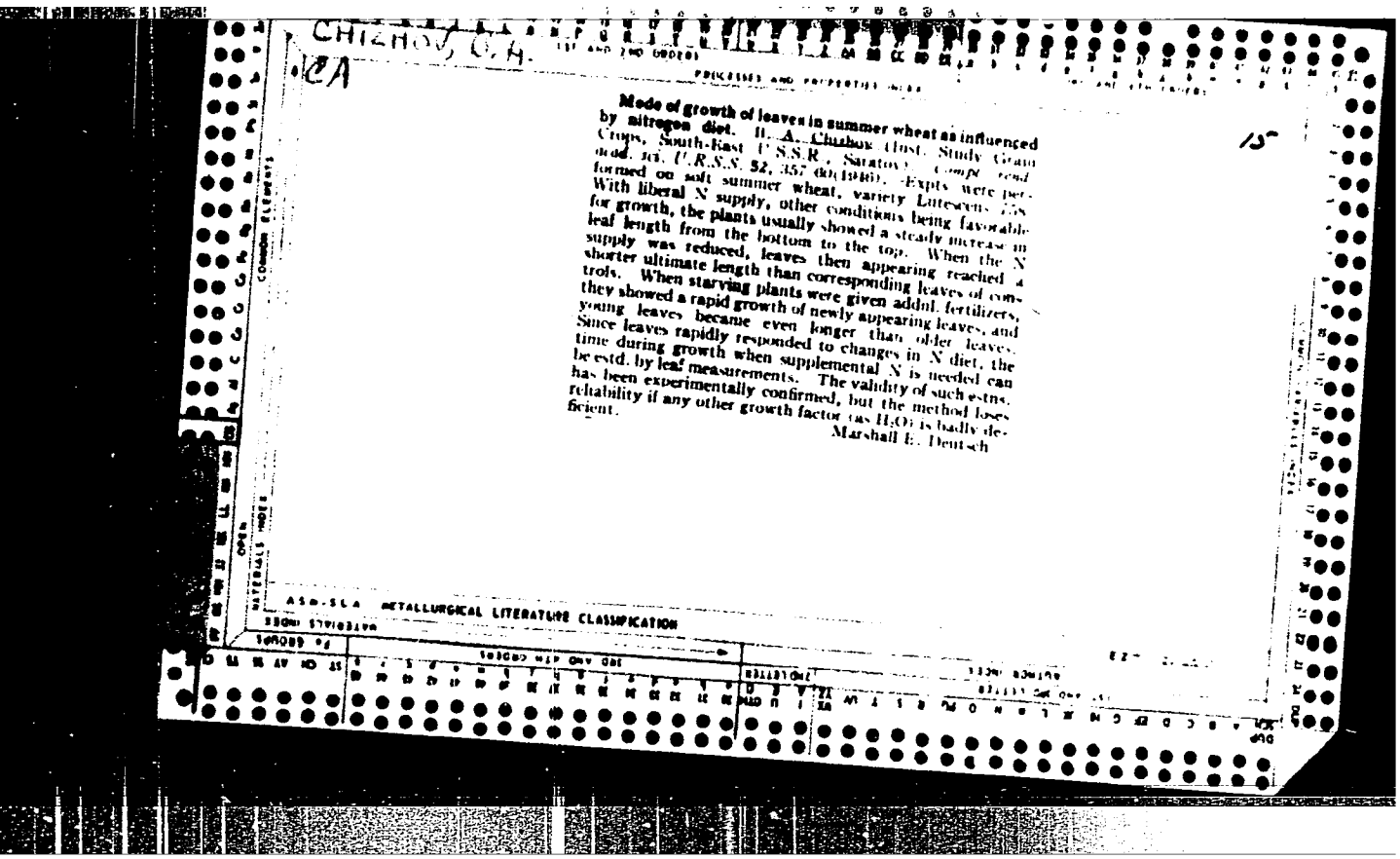
Ion exchange in the study of the state of a substance in solution. Part 9: Complex formation of europium with some dibasic acids. Radiokhimiia 5 no.1:63-73 '63. (MIRA 16:2)

(Europium compounds) (Acids, Organic)
(Ion exchange)



The utilization of nutrients of a dry soil. B. A. Chubov. *Bull. acad. sci. U. R. S. S., Sér. biol.* 1940, XX3 (2(in English, 303-31).—Expts. show that roots located in a dry portion of the soil may release water obtained by the lower roots dipped in water and thus dissolved nutrients to be absorbed by the roots located in the dry area.

J. S. Joffe



CHIZHOV, G.A.

CA

15

Mode of growth of leaves in summer wheat as influenced by nitrogen diet. G. A. Chizhov (Inst. Study Grain Crops, South-East U.S.S.R., Saratov). *Compt. rend. acad. sci. U.R.S.S.* **52**, 357 (1946). Expts. were performed on soft summer wheat, variety Lutescens 758. With liberal N supply, other conditions being favorable for growth, the plants usually showed a steady increase in leaf length from the bottom to the top. When the N supply was reduced, leaves then appearing reached a shorter ultimate length than corresponding leaves of controls. When starving plants were given addnl. fertilizers, they showed a rapid growth of newly appearing leaves, and young leaves became even longer than older leaves. Since leaves rapidly responded to changes in N diet, the time during growth when supplemental N is needed can be estd. by leaf measurements. The validity of such estns. has been experimentally confirmed, but the method loses reliability if any other growth factor (as H_2O) is badly deficient.

Marshall E. Deutsch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CHIZHOV, B. A.

"Fertilizing the Field Crops in Grassland Crop Rotations in the Southeastern Part of the USSR," Saratov Oblast' gos. izd-vo, 1949

CHIZHOV, B. A.

30392

Opryedyelniye foz rayevitiya zachatochnogo kolosa u yarovoy pshyenitsy po poyavlyeniyu list'yev. Trudy In-ta Fiziologii rastyeniy im. timiryazyeva, T. VI, vyp. 2, 1949, S. 282-90.--Bibliogr: 9 Nazv.

SO: Letopis' No. 34

CHIZHOV, B. A.

"Composition, Properties, and Use of Fertilizers," Saratov Oblast' gos. izd-vo, 1950

CHIZHOV, B. A.

"Local Granular Fertilizers," Saratov Oblast' gos. izd-vo, 1951

CHIZHOV, B. A.

"Peculiarities in the Use of Fertilizers in the Cultivation of Crops on Irrigated Lands Beyond the Volga," Sov. agron., 10, No.2, 1952

CHIZHOV, B. D.

CHIZHOV, B. D. -- "Downflow Ventilation of Cleaning Places in Some Deep Level Gas Mines of the Stalino-Makeyevka Rayon Working Flat Sloping Coal Seams." *(Dissertations for Degrees in Science and Engineering Defended at USSR Higher Educational Institutions) Min Higher Education USSR, Moscow Mining Inst imeni I. V. Stalin, Moscow, 1955.

SO: Knizhnaya Letopis' No. 31, 30 July 1955.

***For the Degree of Candidate in Technical Sciences.**

CHIZHOV, B. D.

USSR. 1009. [illegible] OF [illegible] TO VENTILATION OF SHAFTS OF [illegible] MINES. [illegible], A.A., [illegible], A.I. and Chizhov, B.D. (Ugol (Coal), Feb. 1955, 35-37). A record of model experiments giving quantitative data on the advantages of shutting of the pipe and ladder section off the shaft from the remainder and of using widely spaced elliptical buntons instead of I section beams. (L.)

2

VOROPAYEV, Aleksandr Frolovich; KREMNEV, O.A., doktor tekhn. nauk, retsenzent; CHIZHOV, B.D., otv. red.; RATNIKOVA, A.P., red. izd-va; SHKLYAR, S.Ya., tekhn. red.

[Temperature control in deep mines] Upravlenie teplovym rezhimom v glubokhikh shakhtakh. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 246 p. (MIRA 15:2)
(Mine ventilation) (Heat—Transmission)

BARATOV, E.I., kand.tekhn.nauk; CHERNYAK, V.P., inzh.; CHIZHOV, B.D., kand.tekhn.nauk

Determining the rated parameters of outside air for purposes of predicting and regulating the heat conditions of mines located in areas with an extreme continental climate. Trudy Sem.po gor.teplotekh. no.4:72-74 '62. (MIRA 15:8)

1. Institut teploenergetiki AN UkrSSR.
(Mine ventilation)